

ABSTRACT

A synchronous induction motor has a stator having a main winding and an auxiliary winding; a rotor having a yoke, a permanent magnet embedded in the yoke and a secondary conductor provided in the vicinity of periphery of the yoke; and a starter. The starter has a starting capacitor connected in series with the auxiliary winding of the synchronous induction motor, and a switching unit to open/close a circuit from the starting capacitor to the auxiliary winding. The switching unit closes the circuit from the starting capacitor to the auxiliary winding when the synchronous induction motor is at rest, and opens the circuit after the synchronous induction motor is started. The synchronous induction motor is highly efficient and easy to re-start with low power consumption. The electric hermetic compressor equipped with the synchronous induction motor can perform with the similar effects.